NORTH CAROLINA
MINING PERMIT APPLICATION

State of North Carolina
Department of Environmental Quality
Division of Energy, Mineral, and Land Resources

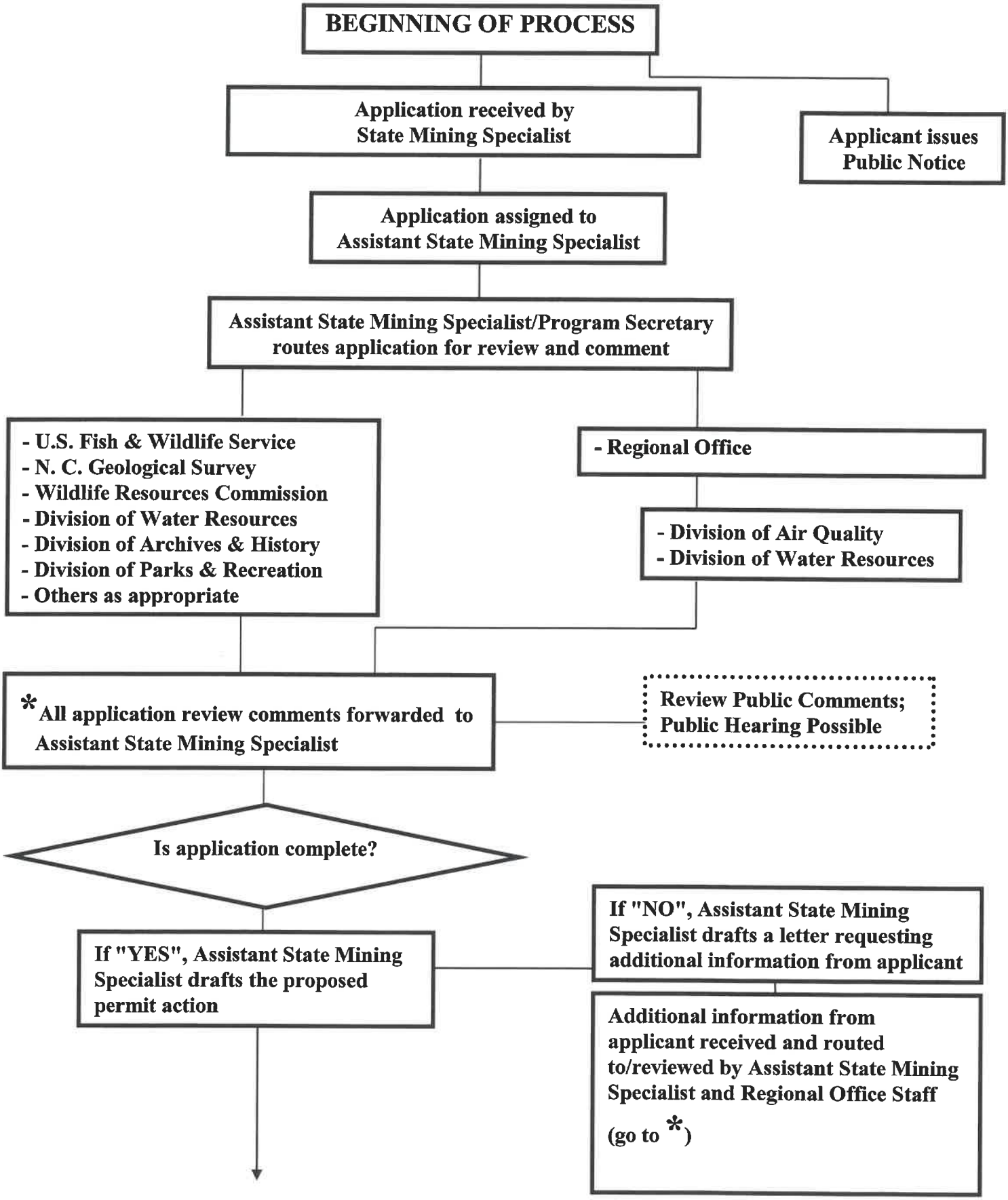
1612 Mail Service Center
Raleigh, North Carolina 27699-1612
(919) 707-9220

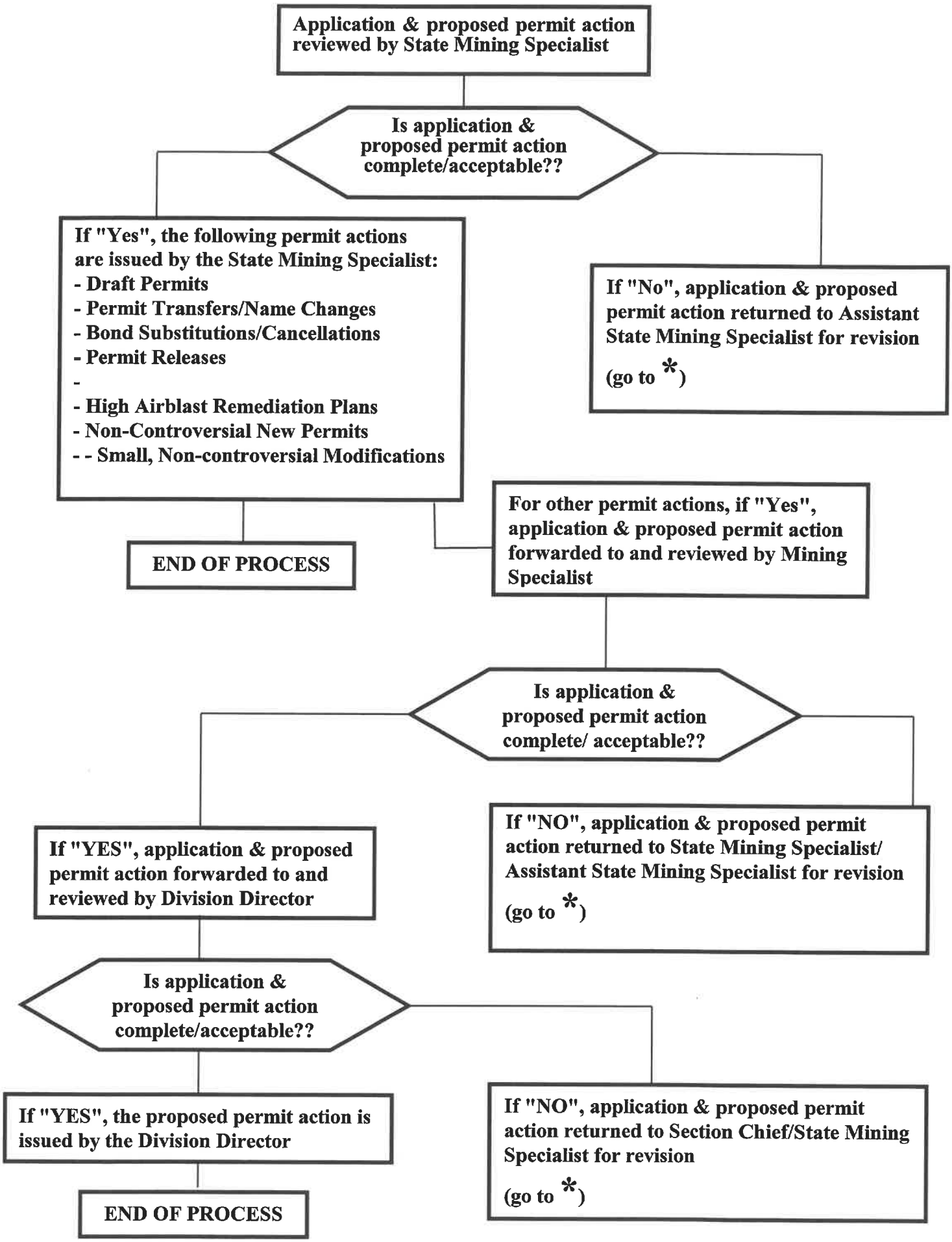
Revised: 2017

NOTE:

It is recommended that you contact the appropriate Regional Office (see Regional Office listing in the back of this booklet) or the Raleigh Central Office for a PRE-APPLICATION MEETING to discuss your intentions and address any questions.

MINING PERMIT APPLICATION REVIEW PROCESS FLOWCHART




Application & proposed permit action reviewed by State Mining Specialist
Is application & proposed permit action complete/acceptable??
If "Yes", the following permit actions are issued by the State Mining Specialist:
- Draft Permits
- Permit Transfers/Name Changes
- Bond Substitutions/Cancellations
- Permit Releases
-
- High Airblast Remediation Plans
- Non-Controversial New Permits
- - Small, Non-controversial Modifications
If "No", application & proposed permit action returned to Assistant State Mining Specialist for revision
(go to *)
END OF PROCESS
For other permit actions, if "Yes", application & proposed permit action forwarded to and reviewed by Mining Specialist
Is application & proposed permit action complete/ acceptable??
If "YES", application & proposed permit action forwarded to and reviewed by Division Director
If "NO", application & proposed permit action returned to State Mining Specialist/ Assistant State Mining Specialist for revision
(go to *)
Is application & proposed permit action complete/acceptable??
If "YES", the proposed permit action is issued by the Division Director
END OF PROCESS
If "NO", application & proposed permit action returned to Section Chief/State Mining Specialist for revision
(go to *)

ORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY

APPLICATION FOR A MINING PERMIT

(PLEASE PRINT OR TYPE)

1. Name of Mine: **Carolina Sunrock Prospect Hill Quarry and Distribution Center** County: **Caswell County**

   River Basin: **Roanoke**

   Latitude (decimal degrees to four places) **36.300266**

   Longitude (decimal degrees to four places) **-79.167534**

2. Name of Applicant* **Carolina Sunrock LLC**

3. Permanent address for receipt of official mail** **200 Horizon Drive Suite 100, Raleigh, NC 27615**

   Telephone **(919) 747-6400** Alternate No. **(919) 747-6336**

4. Mine Office Address: **1238 Wrenn Road, Prospect Hill, NC, 27314**

   Telephone: **(919) 747-6336**

5. Mine Manager: **Scott Martino**

6. E-mail Address: **smartino@thesunrockgroup.com**

I certify that all details contained in this Permit Application are true and correct to the best of our knowledge. We fully understand that any willful misrepresentation of facts will be cause for permit revocation.

***Signature _____ Date 8/27/19

Print Name: **Gregg Bowler**

Title: **Chief Operating Officer and Chief Financial Officer**

* This will be the name that the mining permit will be issued to and the name that must be indicated on the reclamation bond (security) that corresponds to this site.

** The Division of Energy, Mineral, and Land Resources must be notified of any changes in the permanent address or telephone number.

*** Signature of company officer required.

G.S. 74-51 provides that the Department will grant or deny an application for a permit within 60 days of receipt of a complete application or, if a public hearing is held, within 30 days following the hearing and the filing of any supplemental information required by the Department. **All questions must be addressed and all required maps provided before this application can be considered complete. Attach additional sheets as needed.**

APPLICATION FOR A MINING PERMIT

NOTE: All of the following questions must be thoroughly answered regarding your mining operation for the intended life of the mine. All responses must be clearly conveyed on a corresponding, detailed mine map.

A. GENERAL CHARACTERISTICS OF THE MINE

1. Answer all of the following that apply:

☒ If this is an application for a **NEW** permit, indicate the total acreage at the site to be covered by the permit (this is the acreage that the "new permit" fee will be based upon): **630-Acres**

Of this acreage, how much is owned and how much is leased? Acres owned: **630-Acres**
Acres leased: **0-Acres** Property owner if leased:_____

☐ If this is an application for a **MODIFICATION** to a mining permit, indicate the mining permit number and the total (overall) acreage covered by the existing permit.
Mining Permit No.:_____ Total permitted acreage:_____

Does the modification involve acreage within the previously approved permitted boundary?
Yes ☐ No ☐. If yes, indicate the acreage to be covered by this modification (this is the acreage that the "major modification" fee will be based upon):_____

Does the modification involve acreage outside the previously approved permitted boundary?
Yes ☐ No ☐. If yes, indicate the additional acreage to be covered by this modification: _____. (NOTE: you must complete all of Section F. of this application form entitled Notification of Adjoining Landowners).

Of this acreage to be added to the permit, will any portion of this acreage be affected (i.e.: disturbed, ground cover removed) by the mining operation? Yes ☐ No ☐ (If no, a "minor modification" fee of $100.00 is required, despite the "undisturbed" acreage to be added). If yes, indicate the acreage to be affected within the acreage to be added to the permit (the total acreage to be added to the permit is the acreage that the "major modification" fee will be based upon):_____

☐ If this is an application for **TRANSFER** of a mining permit, indicate the mining permit number and the total (overall) acreage covered by the existing permit.
Mining Permit No.:_____ Total permitted acreage:_____

SEE THE FEE SCHEDULE AT THE END OF THIS FORM FOR THE PROPER FEE AMOUNT TO BE PAID FOR THE REQUESTED PERMIT ACTION(S) AND CORRESPONDING ACREAGE NOTED ABOVE

2. Name of all materials mined: **Aggregate (rock-types: Diorite, Diabase, and Granodiorite)**

3. Mining method:
☐ Hydraulic Dredge ☒ Front-end Loader & Truck ☒ Shovel & Truck
☐ Dragline & Truck ☐ Self-loading Scraper

Other (explain): _____

4. a. Expected maximum depth of mine (feet) **550-feet**
Depth is relative to what benchmark? (e.g., natural ground level, mean sea level, road elevation, etc.)
Mean Sea level (msl) (average site elevation ~620 feet (msl))

b. Expected average depth of mine (feet) **70-feet (msl)**

5. Has any area(s) at this site been mined in the past? Yes ☐ No ☒
If yes, when and by whom was this activity conducted?_____

APPLICATION FOR A MINING PERMIT

6. Number of years for which the permit is requested (Life of the Mining Operation or Life of Lease from Public Entity): **Life of Mining Operation (currently estimated at 50 years)**

B. MAPS

1. Clearly mark and label the location of your mining operation on **six (6) copies** of a 7.5-minute quadrangle and a county highway map. These maps, in addition to **six (6) copies** of all mine maps and reclamation maps, must be submitted with each permit application.

   7.5-minute quadrangles may be obtained from the N.C. Geological Survey:

   Mailing Address:
   1612 Mail Service Center
   Raleigh, North Carolina 27699-1612
   (919) 733-2423
   http://portal.ncdenr.org/web/lr/geological_home

   OR

   Physical Address:
   512 North Salisbury Street, 5th Floor
   Raleigh, North Carolina 27604

   County highway maps may be obtained from the N.C. Department of Transportation:

   North Carolina Department of Transportation – Geographic Information Systems (GIS)

   Mailing Address:
   NCDOT GIS Unit
   1587 Mail Service Center
   Raleigh, North Carolina 27699-1587

   Physical Address:
   NCDOT GIS Unit
   3401 Carl Sandburg Court
   Raleigh, North Carolina 27610
   (919) 212-6000
   http://www.ncdot.org/it/gis/

2. Mine maps must be accurate and appropriately scaled drawings, aerial photographs or enlarged topographic maps of the entire mine site. **All aspects of the mine site must be clearly labeled on the maps along with their corresponding (approximate) acreage. Thus, all mine and reclamation maps must denote those activities that are intended to be conducted during the life of the mining permit.** All maps must be of a scale sufficient (see minimum requirements listed below) to clearly illustrate the following, **at a minimum:**

   a. Property lines of the tract or tracts of land on which the proposed mining activity is to be located including easements and rights-of-way.
   b. Existing or proposed permit boundaries.
   c. Initial and ultimate limits of clearing and grading.
   d. Outline and width of all buffer zones (both undisturbed and unexcavated).
   e. Outline and acreage of all pits/excavations.
   f. Outline and acreage of all stockpile areas.
   g. Outline and acreage of all temporary and/or permanent overburden disposal areas.
   h. Location and acreage of all processing plants (processing plants may be described as to location and distance from mine if sufficiently far removed).
   i. Locations and names of all streams, rivers and lakes.
   j. Outline and acreage of all settling and/or processing wastewater ponds.
   k. Location and acreage of all planned and existing access roads and on-site haul roads.
   l. Location of planned and existing on-site buildings.
   m. Location and dimensions of all proposed sediment and erosion control measures.
   n. Location of 100-year floodplain limits and wetland boundaries.
   o. Names of owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary; if an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, names of owners of record of tracts adjoining these tracts, that are within 1,000 feet of the mining permit boundary, must be provided on the mine map.

p. Names of owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary which lie directly across and are contiguous to any highway, creek, stream, river, or other watercourse, railroad track, or utility or other public right-of-way. If an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, names of owners of record of tracts adjoining these tracts, that are within 1,000 feet of the mining permit boundary, must be provided on the mine map(s). NOTE: "Highway" means a road that has four lanes of travel or less and is not designated as an Interstate Highway.

q. Map legend:

1. Name of applicant
2. Name of mine
3. North arrow
4. County
5. Scale
6. Symbols used and corresponding names
7. Date prepared and revised
8. Name and title of person preparing map

Map scales should meet the following guidelines:

PERMITTED ACREAGE	MAP SCALE
0-49 Acres	1 inch = 50 feet
50-199 Acres	1 inch = 100 feet
200+ Acres	1 inch = 200 feet

(NOTE: Smaller scaled maps may be acceptable if they clearly illustrate the above items)

A table/chart must be provided on the mine map that clearly lists the approximate acreage of tailings/sediment ponds, stockpiles, wastepiles, processing area/haul roads, mine excavation and any other major aspect of the mining operation that is proposed to be affected/disturbed during the life of the mining permit. A table/chart similar to the following will be acceptable:

CATEGORY	AFFECTED ACREAGE
Tailings/Sediment Ponds	**10**
Stockpiles	**30**
Wastepiles (Includes all Berms and Disposal areas)	**82**
Processing Area/Haul Roads	**40**
Mine Excavation	**199**
Other (Explain) (asphalt/concrete plant area)	**19**
Total Disturbed Acreage	**380**

NOTE:
IN ADDITION TO THE ABOVE, THE MAPS MUST ALSO INCLUDE ANY SITE-SPECIFIC INFORMATION THAT IS PROVIDED IN THE ANSWERS TO THE FOLLOWING QUESTIONS IN THIS APPLICATION FORM (*PLEASE NOTE THE ITALICIZED QUESTIONS/STATEMENTS THROUGHOUT THE FORM*). THIS APPLICATION WILL NOT BE CONSIDERED COMPLETE WITHOUT ALL RELEVANT ITEMS BEING ADEQUATELY ADDRESSED ON THE MINE MAPS.

C. PROTECTION OF NATURAL RESOURCES

1. Describe in detail the sequence of events for the development and operation of the mine and *reference the sequence to the mine map(s).* Attach additional sheets as needed.

Below is the summary of the sequence of events for the development of the property.

ENTRANCES:

1. Establishment of the three (3) construction entrances to the property off Wrenn Road as shown in the stormwater detail maps

VISUAL SCREENING BERMS:

1. Establishment of sediment and erosion controls (silt fence, Basins 1and 2 and associated diversion berms/ditches) per the attached plans
2. Begin construction of all visual screening berms using material from the proposed borrow pit located on the western end of the permitted area per the attached plans
3. Upon completion of final grading of the visual barricade berms, the berms will be stabilized and seeded per the seeding specifications and schedule provided within this application
4. Stabilization and seeding of the borrow pit area once its useful purpose has ended
5. Upon stabilization of the borrow pit and visual barricade berms, specific sediment and erosion control devices serving these areas will be removed and the remaining areas stabilized with groundcover

ASPHALT/CONCRETE PLANTS AREA:

1. Installation of silt fence around asphalt/concrete plant area
2. Installation of Basins 3, 9, and 10 within the asphalt and concrete plants' sites
3. Construction of diversion berms/ditches to basins
4. Grading and construction of the asphalt and concrete plant facilities

PIT DEWATERING POND AND SETTLING PONDS:

1. Installation of silt fence and Basins 13 and 16 including associated berms and ditches as indicated in the construction sequence and as shown on the attached plans
2. Begin excavation of pit dewatering pond and settling ponds.

QUARRY PLANT AND STOCKPILE YARD:

1. Install silt fence along outside toe of location of diversion berms and diches
2. Installation of diversion berms leading and ditches to Basins 10, 11, 12, 15, and 26
3. Upon completion of diversion berms/ditches, the berms will be stabilized and seeded
4. Installation of permanent access to quarry facility
5. Connection and closure of visual barricade berm at original construction entrance
6. Begin grading quarry plant and stockpile area
7. Installation of scale house, employee building maintenance facility, and associated auxiliary features.
8. Begin construction of quarry plant facilities

CREEK CROSSING:

1. Installation of horse shoe filters 1, 2, 3, and 4 and associated diversion ditches in area of creek crossing to overburden disposal area
2. Excavate existing crossing
3. Installation of new culvert crossing as shown on sheet 7e

OVERBURDEN DISPOSAL AREAS (ODA 1, ODA 2, ODA 3)

1. Install silt fence as displayed on mine maps
2. Install Basins, 6, 7, and 8 (ODA- 2); Basins 5, 6, and 7 (ODA-1); Basins 38, 39, 40, and 41 (ODA-3) including all associated diversion berms/ditches
3. Removal of existing vegetation and topsoil within each 10' interval lifts, ultimate foot print of each overburden disposal area, as storage is needed

4. Construction will begin at topographical low raising contours in 10' intervals along existing topography
5. Each 10' lift's outer slope is to be constructed at a 2-foot horizontal to 1-foot vertical slope
6. Each 10'lift will be stabilized with groundcover upon completion of final grading of each lift's perimeter and prior to the deposition of the internal fill

PHASED PIT DEVELOPMENT WITHIN PIT A AND B:

Note: Phases I, II, and III within Pit A will be mined leaving a 50-foot undisturbed buffer along all streams and wetlands within the ultimate pit boundary of Pit A

Phase I (initial opening)

1. Installation of silt fence
2. Installation of Basins 16, 17, 19, 24, and 25 and their associated diversions berms/ditches as per the attached plans
3. Begin overburden stripping/mining activities within Phase I
4. Overburden to be used to begin construction of ODA-2

Phase II

1. Installation of silt fence
2. Installation of Basins 14, 16, 18, 19, 20, 21, and 22 and their associated diversions berms/ditches as per the attached plans
3. Begin overburden stripping/mining activities within Phase II
4. Overburden to be used to continue construction of ODA-2 and begin ODA-1

Phase III

1. Installation of silt fence
2. Installation of Basins 22, 23, 24, 26, 27, and 28 and their associated diversions berms/ditches as per the attached plans
3. Begin overburden stripping/mining activities within Phase III
4. Overburden to be used to continue construction of ODA-1

Phase IV (Pit expansion to ultimate mining limits in Pit A and complete mining of Pit B)

1. Permit modification will be submitted to and approved by NCDEQ DEMLR prior to initiating phase IV
    a. Phase IV involves expanding the Pit A through existing streams and wetlands to achieve the ultimate pit boundary of Pit A, installation of a creek crossing to access Pit B, and the stripping and mining of Pit B. Carolina Sunrock will address all applicable State and Federal permitting requirements, including applying for and obtaining approval of a mine permit modification. In addition, prior to applying for a mining permit modification, Carolina Sunrock will apply for and obtain approval of an updated US Army Corps of Engineers Jurisdictional Determination/404 permit, and NCDEQ 401 Water Quality Certification, including addressing any potential mitigation related to impacts on onsite streams and wetland features within the pit boundaries of pits A and B.
    b. Upon receipt of all applicable permitting and mitigation requirements, Phase IV of the open pit expansion will begin as follows.
        i. Stripping and expansion of Pit A to its ultimate pit boundary's
        ii. Installation of the creek crossing to access to Pit B
        iii. Installation of silt fence within Pit B areas prior to stripping
        iv. Installation of all Basins and their associated diversions berms/ditches within the limits of Pit B (Basins 29 through 41) prior to stripping and mining activities
        v. Begin Stripping and Mining of Pit B

RECLAMATION:

1. Upon completion of mining and as displayed within the attached plans (sheet 6) reclamation will proceed as follows:

a. All stockpiles and mining equipment/facilities will be removed from the site
b. All existing stormwater basins and settling ponds will be backfilled/stabilized/seeded, with the exception of the pit de-watering pond and the facility entrance pond. These two ponds will remain onsite for future property use.
c. All mining related refuse will be removed from site and properly disposed of per applicable regulations
d. Onsite offices, scale house, and maintenance shop structures will remain onsite for future property use
e. Both the asphalt plant and ready mix concrete facilities, as well as their associated structures, stockpiles, and refuse will also be removed from the site and properly disposed of per applicable regulations
f. Open Pits A and B will be allowed to be filled with water for future use as potential potable water source or recreational facilities
g. The final open pit perimeters shall be fenced
h. Direct access into the open pit internal ramp systems will be barricaded via large boulders stacked end to end
i. Property access shall be controlled via the two proposed gated facility access points
j. All remaining uncompleted cut slopes and/or overburden disposal areas will be graded to a minimum of 2-foot horizontal to 1-foot vertical slope, stabilized and seeded

2. Describe specific erosion control measures to be installed prior to land disturbing activities and during mining to prevent offsite sedimentation *(include specific plans for sediment and erosion control for mine excavation(s), waste piles, access/mine roads and process areas)*, and give a detailed sequence of installation and schedule for maintenance of the measures. *Locate and label all sediment and erosion control measures on the mine map(s) and provide typical cross-sections/construction details of each measure.* Engineering designs and calculations are required to justify the adequacy of any proposed measures.

Carolina Sunrock contracted with the Timmons Group (a licensed engineering firm in North Carolina) in order to ensure the proper design and placement of all erosion and sedimentation control/stormwater management measures based upon a 25-year design storm. Timmons' final detailed design and construction details can be found within the attached Sheets C0.00 through C4.20.

In order to tie the engineered erosion and sedimentation control, and storm water control measures to the various mining plan sheets, and to avoid duplication of effort, only the locations, generalized shape, and labels of the designed control measures are provided within the mine maps. The attachment containing Timmons' detailed designs and actual basin configurations will provide the supporting information for all indicated measures.

3. a. Will the operation involve washing the material mined, recycling process water, or other waste water handling? Yes ☒ No ☐. If yes, briefly describe all such processes including any chemicals to be used.

The quarry will be operating two separate wash screens within the proposed aggregate processing facility., One wash screen (sand plant) and one more traditional three deck aggregate wash screen (future expansion). As displayed on the mine maps (Sheets 5 through 5 C), both screens will receive water via a pump from the pit dewatering/plant water pond. The process water from the screens will be captured within the screens and piped via gravity feed and/or pumped to a series of two separate sets of four interconnected settling ponds. The final settling pond will then be piped back to the pit dewatering/plant water pond.

For planning purposes, Carolina Sunrock does not anticipate the need to utilize any flocculants. However, if such treatment is needed, flocculants from the NCDEQ approved list will be tested for applicability. Following testing and product selection, Carolina Sunrock will notify the department under a separate letter.

The quarry aggregate crushing and screening facility will be outfitted with wet suppression systems utilizing misting/spray nozzles in order to control fugitive dust emissions. These dust suppression systems typically do not generate pooling of water, nor significant runoff. Therefore, process water is either consumed within the

process or evaporates.

The crushing and aggregate facility will also be equipped with high pressure water hoses in various areas to aid operators in preforming maintenance and cleanup of any potential system blockages and material build up surrounding the equipment. This water will be captured and diverted via overland flow to Basins 11, 12, 16, and 26. Ultimately this water will return to the open pit over time.

Included within the Mine Permit Boundary, Carolina Sunrock proposes the installation and operation of both a Hot Mix Asphalt Plant and a Ready Mix Concrete Plant. These facilities will also utilize process water and recycled water. The Hot Mix Asphalt Plant will utilize process water primarily for dust control. However, the Ready Mix Concrete Facility will utilize process water for the wetting of stockpiles, truck cleaning, and other treatments within the production process. Process water produced from mixer truck cleanout will be captured within a hard bottom weir system. The weir system will be connected to a sloped concrete pad used to divert process water through four partitioned 12'X 24'X 3' (length, width, depth) settling bays. The water is then diverted to the final bay consisting of a 15X50X8' (length, with, depth) back basin, where the water is treated using a ph neutralization system that utilizes carbon dioxide (CO2) injection. From this final bay location, the process water is either pumped for use in the concrete batching process or utilized to wash mixer trucks. Any process water from the Hot Mix Asphalt Plant and Ready Mix Concrete Plant will be captured and diverted into Basins 3, 9, and 10.

b. Will the operation involve discharging fresh or waste water from the mine or plant as a point discharge to the waters of the State? Yes ☒ No ☐. *If yes, briefly describe the nature of the discharge and locate all proposed discharge points (along with their method of stabilization) on your mine map(s).*

The discharge of both stormwater and process water is anticipated into waters of the State. All proposed basins/discharge points are labeled and displayed on the mine maps along with their appropriate method of stabilization. All basins and engineered construction details are provided within the attached mine maps and included within the Timmons Group's design document and construction details (Sheets C0.00 through C4.20).

Provided below is a summary of each discharge location and water type (process vs. stormwater) that is expected at each Basin location.

Water Control ID	Discharge Type
Pit Dewatering Pond	Process Water (Groundwater from Pit)
Basin 1	Storm water
Basin 2	Pit Dewatering
Basin 3	Stormwater
Basin 4	Stormwater
Basin 5	Stormwater
Basin 6	Storm water
Basin 7	Storm water
Basin 8	Storm water
Basin 9	Comingled Process Water/Stormwater
Basin 10	Comingled Process Water/Stormwater
Basin 11	Comingled Process Water/Stormwater
Basin 12	Comingled Process Water/Stormwater
Basin 13	Stormwater
Basin 14	Stormwater
Basin 15	Comingled Process Water/Stormwater
Basin 16	Stormwater
Basin 17	Stormwater
Basin 18	Stormwater
Basin 19	Stormwater
Basin 20	Stormwater

Basin 21	Stormwater
Basin 22	Stormwater
Basin 23	Stormwater
Basin 24	Stormwater
Basin 25	Stormwater
Basin 26	Comingled Process Water/Stormwater
Basin 27	Stormwater
Basin 28	Stormwater
Basin 29	Stormwater
Basin 30	Stormwater
Basin 31	Stormwater
Basin 32	Stormwater
Basin 33	Stormwater
Basin 34	Stormwater
Basin 35	Stormwater
Basin 36	Stormwater
Basin 37	Stormwater
Basin 38	Stormwater
Basin 39	Stormwater
Basin 40	Stormwater
Basin 41	Stormwater

c. Will any part of the proposed mine excavation(s) extend below the water table? Yes ☒ No ☐.
If yes, do you intend to dewater the excavation(s)? Yes ☒ No ☐.
If yes, what impact, if any, will mine dewatering have on neighboring wells? Estimated withdrawal rate in gallons per day:_____. *Locate all existing wells on the mine map(s) that lie within 500 feet of the proposed excavation area.* Provide data to support any conclusions or statements made, including any monitoring well data, well construction data and current water withdrawal rates. Indicate whether the proposed mine locale is served by a public water system or private wells.

At the time of this submittal, there is only one known neighboring well within 500 feet of either proposed open pits (Pit A or Pit B). This well is located at an uninhabited abandoned residential structure which is located on the mine maps. Currently there is no public water supply available for the proposed facilities.

In order to determine the proposed facility's underlying hydrogeological conditions and to determine potential groundwater impacts to surrounding/neighboring parcels, Carolina Sunrock retained Piedmont Geologic, LLC a licensed engineering and geologic firm in NC, to conduct a detailed hydrogeologic site assessment. A copy of the final report is provided in Appendix A of this submittal.

According to this report, the proposed pits will display cone of depressions extending approximately 728-feet and 1,300-feet when the pits reach a depth of 300-feet and 550-feet (ultimate depth), respectively. In order to further safe guard and ensure the accuracy of the findings of the detailed study, Carolina Sunrock proposes to conduct quarterly groundwater level monitoring for the life of the mine. The results of the monitoring shall be made available upon request as is the case at our other facilities. The monitoring shall consist of monitoring nine existing wells which have been installed for the study, the current onsite water supply well, and three proposed monitoring wells to be installed near the permit boundary. All well locations are provided within the mine maps.

d. If you answered yes to any of the above questions, provide evidence that you have applied for or obtained the appropriate water quality permit(s) (i.e., non-discharge, NPDES, Stormwater, etc.) from the Stormwater Program. In addition, the applicant is required to register water use with the Division of Water Resources, Ground Water Management Branch, if the operation withdraws more than 10,000 gallons per day and needs a capacity use permit from the Division of Water Resources, Ground Water Management Branch, if the operation lies in a capacity use area and withdraws more than 100,000 gallons per day.

As noted above, Carolina Sunrock retained the services of the Timmons Group to design all erosion and

sedimentation control/stormwater management measures for the entire site. Timmons will also be compiling the NPDES NCG02 application on behalf of Carolina Sunrock, which will be submitted under separate cover. Once the NCG02 application has been submitted directly to DEMLR's Stormwater Program, a copy of the application will be submitted to DEMLR's Mining Program for its information and file.

4. a. Will the operation involve crushing or any other air contaminant emissions? Yes ☒ No ☐. If yes, indicate evidence that you have applied for or obtained an air quality permit issued by the Division of Air Quality or local governing body.

Carolina Sunrock has retained Trinity Consultants (a licensed engineering company in NC) to complete and submit the Air Quality Permit application on behalf of Carolina Sunrock. The application submittal will include all initial and future aspects of the quarry operation. The submittal will also include the required air dispersion modeling for the proposed asphalt and concrete plants along with generators for future use in power generation. A copy of the final Air Quality permit application, once it is submitted to the Division of Air Quality for review and approval, will be delivered to DEMLR's Mining Program for its information and file.

b. How will dust from stockpiles, haul roads, etc., be controlled?

Fugitive dust emissions have been considered in the design of all aspects of the proposed facility. The location of the proposed facility's major components (with the highest fugitive dust potential) are not located within 250' feet of any property or permit boundary. This design and proposed layout will ensure a very low potential for generated fugitive dust leaving the property and mine permit boundary.

Furthermore, air permit requirements stipulate that fugitive dust produced from conveyor transfer points, screens, and crushers within the aggregate processing plant will be managed via the use of wet suppression systems. These fugitive dust suppression systems are to be inspected daily and documented for proper operation in order to maintain compliance with air quality permit requirements. In order to maintain fugitive dust control within all haul roads and gravel paved travel ways (i.e. stockpile yard, open pit haul road), a water truck will be utilized. In addition, to maintain and monitor track out and fugitive dust potential from the paved access roadway to the facility, a tire wash down facility has been incorporated to the design of the scale house. Paved access roads will also be maintained and periodically watered and a sweeper will be utilized on an as-needed basis.

Both the proposed Hot Mix Asphalt Plant and Ready Mix Concrete Plant will be equipped to control emissions and dust via dust collector systems (bag houses). These systems will be tested, maintained, and inspected based upon the applicable regulations within the Air Quality Permit. In addition, the roadways at each plant will also be supported by periodic watering via a water truck and sweeper (in paved areas) as needed.

5. a. A buffer will be required between any mining activity and any mining permit boundary or right-of-way. It may be an unexcavated buffer (no excavation, but roadways, berms and erosion & sedimentation control measures may be installed within it), an undisturbed buffer (no disturbance within the buffer whatsoever), or a combination of the two, depending upon the site conditions. Note that all buffers must be located <u>within</u> the mining permit boundaries.

How wide a buffer will be maintained between any mining activity and any mining permit boundary or right-of-way at this site? A minimum buffer of 25 feet is recommended, although a wider buffer may be needed depending on site conditions. *Show all buffer locations and widths on the mine map(s).*

As documented throughout the attached plan sheets, a combination of 100-foot undisturbed buffer along with a 100-foot unexcavated buffer will be provided along the mine permit boundary. There are several areas along Wrenn Road and Ridgeville Road in which there is no natural buffer nor visual barricade to the proposed operations (due to timbering by the prior landowner). In these areas, Carolina Sunrock has proposed a 200-foot unexcavated buffer in order to construct and maintain a landscaped visual screening berms to conceal the operation from public view, along with supplemental overburden berms as material is available from stripping operations. As referenced within the attached plan sheets, all proposed buffers are identified as follows:

1. Red – Permit Boundary/Property Boundary
2. Pink – 100-foot Undisturbed Buffer

3. Green – 100-foot or 200-foot Unexcavated Buffer

b. A minimum 50-foot-wide undisturbed buffer will be required between any land disturbing activities within the mining permit boundaries and any natural watercourses and wetlands unless smaller undisturbed buffers can be justified. Depending on site conditions, a buffer wider than 50 feet may be needed.

How wide an undisturbed buffer will be maintained between any land disturbing activities within the mining permit boundaries and any natural watercourses and wetlands at this site? *Show all buffer locations and widths on the mine map(s).*

As displayed on the attached plan sheets, a 100-foot undisturbed buffer has been provided along all major natural water courses. This includes Sugar Tree Creek as well as the two larger un-named tributaries which bisect the central and northern portions of the property. All other known wetlands and intermittent or ephemeral streams have been provided a 50-foot undisturbed buffer.

Carolina Sunrock retained the services of Palmetto Environmental Consulting, Inc, (a licensed professional wetland scientist) to delineate the proposed site for wetlands and natural water courses. A site visit was subsequently conducted by Mr. David E. Bailey, PWS, Regulatory Project Manager of the US Army Corps of Engineers on July 30th and 31st, 2019 in order to verify all stream and wetland boundaries previously delineated. All verified natural wetlands and natural water courses have been surveyed and are displayed within the mine maps as they were observed and discussed during the July 30th US Army Corps of Engineers site visit. Upon receipt of the Preliminary Jurisdictional Determination Approval, a copy will be provided to DEMLR's Mining Program for its information and file.

In addition, as part of the initial site development and construction, two small wetland area will be permanently impacted. Carolina Sunrock is currently in the process of obtaining all applicable State and Federal permits associated with these minor impacts. The proposed impact as highlighted on Sheet 7E areas will be limited to a maximum disturbance of 0.1-acres and will be addressed by obtaining a COE Nationwide Permit. The first proposed impact area includes the refurbishment of an existing creek crossing to the overburden disposal areas 1 and 2 from the proposed quarry plant-processing area and initial pit opening. The second proposed impact area is a proposed conversion of land heavily disturbed from timber activity located near the entrance pond to create a formal site access. Once COE sign off has been obtained, a copy of such approval will be provided to DEMLR's Mining Program for its information and file.

As noted above, prior to completion of Phase 3 development, a mine modification, revised jurisdictional stream and wetland determinations, and all applicable State and Federal impact permits and mitigation will be applied for and obtained prior to any disturbance within the proposed Phase 4 areas.

6. a. Describe methods to prevent landslide or slope instability adjacent to adjoining permit boundaries during mining. Minimum 2 horizontals to 1 vertical slopes or flatter for clayey material and minimum 3 horizontals to 1 vertical slopes or flatter for sandy material are generally required, unless technical justification can be provided to allow steeper slopes.

Below is the summary of the construction of the overburden disposal berms and the Overburden/Pond Fine Disposal Areas as well as how both Pit A and Pit B will be mined to ensure slope stability.

Visual Screening Berms – As part of initial site development, these berms are intended to provide visual screening for the operation. The berms will initially be constructed along the mining permit boundaries along Ridgeville and Wrenn Roads as indicated on the attached plan sheets. The outward facing slope along the roadways is proposed to be a 3-foot horizontal to 1-foot vertical slope, while the inward property slope will be graded to 2-foot horizontal to 1 foot-vertical slope. Following construction completion, the berms will be seeded and tops of the berms will be landscaped with native grasses and trees as indicated on the attached plan sheets.

Overburden/Pond Fine Disposal Areas Berms – This secondary berm type is proposed to be located within the 100' unexcavated buffer behind the above mentioned Visual Barricade Berms surrounding the property. These berms will be constructed over time and as space is needed for placement of overburden stripping materials. They will be constructed in approximately 10 to 12 foot lifts while simultaneously being graded to

a 2-foot horizontal, 1-foot vertical grade slope. These berms will be no higher than 20-foot in height based upon current topography to maintain compliance with established mine permit standards. Lastly, upon completion of annual stripping and overburden disposal activities within these areas, they will be either permanently seeded or temporarily seeded depending upon if the maximum designed capacity has been obtained for each proposed berm as displayed on the attached plan sheets.

Overburden/Pond Fine Disposal Areas – As displayed on the attached plan sheets, three large disposal areas have been proposed at the site. These areas are to serve as disposal area for overburden and pond fines generated by the aggregate processing plant only. Each disposal area is to be constructed with 2-foot horizontal 1-foot vertical perimeter slopes in 10 to 12-foot lifts. Upon completion of each 10 to 12-foot perimeter lift, the outer slope will be reclaimed upon deposition of the internal fill (pond fines). Each 10 to 12-foot lift will consist of a 40-foot travel way and 75-foot base. All flat surfaces are proposed to be sloped ~2% towards the center of the structure. The proposed stormwater swales that will carry surface water runoff to periodic slope drains leading to measures to capture and treat the runoff before discharge into the buffer.

Open Pit Mine Slopes – As displayed in the cross sections sheet 7a, the top edge of the 2-foot horizontal to 1-foot vertical overburden cut slope for both Pit A and Pit B have been designed to be a minimum of 240 feet off of any adjoining property/mining permit boundary. As designed, there will be a minimum 10 foot wide safety bench at the toe of the overburden cut slope and the top of rock. Once in rock, no final batter bench angle will exceed 72 degrees (estimated pre-split wall angle per bench). In addition, the steepest inter slope angle will be 45-degrees.

b. *Provide a cross-section on the mine map(s) for all fill slopes (berms, wastepiles, overburden disposal areas, etc.), clearly indicating the intended side slope gradient, installation of any benches and/or slope drains (with supporting design information) if needed, and the method of final stabilization.*

All cross-sections of typical visual barricade berms and overburden and fines disposal areas have been provided in the attached plan sheets, along with construction details for each.

c. In excavation(s) of unconsolidated (non-rock) materials, specify the angle of all cut slopes including specifications for benching and sloping. *Cross-sections for all cut slopes must be provided on the mine map(s).*

Cross-section of all non-rock excavations are included within the attached plan sheets. All cut slopes within open Pit A and Pit B will be cut at a 2-foot horizontal to 1-foot vertical slope to the top of rock with a ten-foot wide safety bench surrounding the top of the first bench of each open pit.

The proposed borrow area on the western portion of the site to be used initially to construct the visual barricade berms along Ridgeville and Wrenn Roads will entail a 20-foot overburden cut slope (removal of a hill). All slopes within this proposed area will be graded/cut to a 2-foot horizontal to 1-foot vertical slope to provide slope stability as well as to allow for positive drainage to nearby basins, seeded and subsequently planted with shortleaf pines for future timbering upon completion of the visual barricade berms.

d. In hardrock excavations, specify proposed bench widths and heights in feet. *Provide cross-sections of the mine excavation clearly noting the angles of the cut slopes, widths of all safety benches and mine benches, and the expected maximum depth of the excavation.*

Cross-sections of both proposed Pit A and Pit B are provided within the attached plan sheets. Bench heights are proposed to be approximately 50-feet in height and to allow for a 35-foot step out (safety catch bench).

7. Describe other methods to be taken during mining to prevent physical hazard to any neighboring dwelling house, public road, public, commercial or industrial building from any mine excavation. *Locate all such structures on the mine map if they are within 300 feet of any proposed excavation.*

Currently, there is only one non-owned structure within 300 feet of any proposed hard rock excavation, which is a non-occupied, uninhabited, abandoned residential structure across Wrenn Road. The next closest

non-owned structure to either of the proposed open pit excavations is located ~1,000 feet north of Pit A's ultimate boundary, and ~1,200 feet away to the east of Pit B's ultimate boundary. Therefore, no physical hazards to any non-owned occupied structures are anticipated from a slope stability or blasting aspect of the operation. All immediately adjoining non-owned structures are displayed on the attached plan sheets.

Portions of Wrenn Road and Goose Creek Road (northeast corner of site map), which are both public roadways, are located within 300 feet of the proposed excavations. Based upon the open pit designs and inner slope angle of 45 to 39 degrees, there is no anticipated physical hazard to the roadways.

However, given that these are public roadways, Carolina Sunrock proposes that when blasting is scheduled to be conducted within 600-feet of these roadways, quarry personnel will temporarily close portions of the roadway closest to the blast during the blasting initiation process only. This temporary closure will last approximately 10 minutes, utilizing appropriate traffic control measures. It should be noted that no blasting will be conducted within this radius until the operation approaches Phase II and Phase IV, respectively.

8. Describe what kind of barricade will be used to prevent inadvertent public access along any high wall area and when it will be implemented. Vegetated earthen berms, appropriate fencing and adequate boulder barriers may be acceptable high wall barricades. *A construction detail/cross-section and location of each type of barricade to be used must be indicated on the mine map(s).*

The mining property will have two monitored and controlled, gated access points as shown on the attached plan sheets.

In addition to monitored and controlled access points, visual barricade berms and overburden disposal berms have been proposed, which will also serve as barricades against inadvertent public access.

Surrounding all active open pit excavations will be a 20-feet wide roadway that will be maintained surrounding the circumference of each pit's first bench. This road will be maintained with a minimum of three-foot-high berms on both sides of the roadway for mine operator safety as per the Federal Mine Safety and Health Administration requirements. In addition, the pit and this roadway will begin well within the mine property during the early mine phases of the operation. The road will then gradually move outward during overburden stripping activities and pit expansions over the course of the mine until the ultimate pit is achieved – see the attached plan sheets for further clarification. Active drill and blast areas will also be maintained and enclosed with three-foot berms, chain-gated access points, and posted for employee and contractor protection.

9. Are acid producing minerals or soils present? Yes ☐ No ☒.
If yes, how will acid water pollution from the excavation, stockpiles and waste areas be controlled?

There are no known rock types, mineral assemblages, or soils present onsite that would be considered acid producing.

10. a. Describe specific plans (including a schedule of implementation) for screening the operation from public view such as maintaining or planting trees, bushes or other vegetation, building berms or other measures. *Show the location of all visual screening on the mine map(s) and provide cross-sections through all proposed berms or proposed spacing, sizes and species for tree plantings.*

Visual Barricade Berms are proposed as part of initial site development activities, as stated above and shown on the attached plan sheets. These berms are proposed along mining permit boundaries that face Ridgeville Road and Wrenn Road to screen the operation from public view. These berms are to be 10-feet in height with the proposed outward facing slope being graded to a final 3-feet horizontal to 1-foot vertical slope, while the inward property slope will be graded to 2-feet horizontal to 1 foot-vertical slope. Upon their completion, these berms will be seeded with native grasses, and tops of the berms landscaped with trees.

The remainder of the property's perimeter, where existing dense vegetative cover already exists, will remain in place as part of the outer undisturbed buffer. In those areas along the property boundary, which are not to be disturbed by the proposed mining operation and were impacted by the prior landowner's timbering activities, native grasses shortleaf/long leaf pines will be planted to reestablish a visual buffer within the

outer 100-foot undisturbed buffer.

b. Could the operation have a significantly adverse effect on the purposes of a publicly owned park, forest or recreation area? If so, how will such effects (i.e., noise, visibility, etc.) be mitigated?

There are no known publicly owned parks, forests, or recreational facilities within the immediate vicinity of the proposed facility.

11. Will explosives be used? Yes ☒ No ☐.
If yes, specify the types of explosive(s) and describe what precaution(s) will be used to prevent physical hazard to persons or neighboring property from flying rocks or excessive air blasts or ground vibrations. Depending on the mine's location to nearby structures, more detailed technical information may be required on the blasting program (such as a third-party blasting study). *Locate the nearest offsite occupied structure(s) to the proposed excavation(s) on the mine map and indicate its approximate distance to the proposed excavation.*

All blasting activities will be conducted by a licensed and registered blasting professional sub-contractor. All blasts will be scaled and executed to ensure compliance with the established ground vibration, and air blast standards, and to minimize the potential for fly rock. All blasts will be monitored via a seismograph to be located at the closest non-owned structure to the specific blast location.

Based upon the proposed initial excavation opening (Phase 1), the nearest non-owned structure is located to the north of the excavation sits at a distance in excess of ~1,800 feet. In order to further establish a baseline characterization of blasting effects at various distances from any given blast, Carolina Sunrock has retained a third party blasting expert (Vibra-Tech) to estimate the effects of blasting at various distances based upon a typical, standardized blast. The final Vibra-Tech blasting analysis report, including its findings and recommendations, is attached as Appendix B. It should be noted that the blasting characterizations provided in the report are conservative, and all blasts conducted on site are individual by nature of location, size, power factor, and geology. In any case, Carolina Sunrock has extensive blasting experience over several decades at its various permitted quarry facilities and will continue to use best blasting practices at this proposed facility.

12. Will fuel tanks, solvents, or other chemical reagents be stored on-site? Yes ☒ No ☐.
If yes, describe these materials, how they will be stored and method of containment in case of spill. Indicate the location(s) of all storage facilities on the mine map(s).

All tanks and are labeled and are shown in their proposed locations on the attached plan sheets. All tanks proposed for the facility will be double-walled, aboveground storage tanks and/or placed within engineer designed concrete secondary containment structures. Below is a summary of all proposed tanks and appropriate containments.

Tank ID	Location	Size	Content	Containment
1	Asphalt Plant	20,000 gal	Used Oil	Double Wall Tank
2	Asphalt Plant	20,000 gal	Used Oil	Double Wall Tank
3	Asphalt Plant	30,000 gal	A.C. (spell out?)	Concrete Containment
4	Asphalt Plant	30,000 gal	A.C.	Concrete Containment
5	Asphalt Plant	20,000 gal	Fuel	Double Wall Tank
6	Asphalt Plant	20,000 gal	Fuel	Double Wall Tank
7	Concrete Plant	2,000 gal	Add Mix	Concrete Containment
8	Concrete Plant	2,000 gal	Add Mix	Concrete Containment
9	Concrete Plant	2,000 gal	Add Mix	Concrete Containment
10	Concrete Plant	2,000 gal	Add Mix	Concrete Containment
11	Concrete Plant	2,000 gal	Add Mix	Concrete Containment
12	Concrete Plant	2,000 gal	Add Mix	Concrete Containment
13	Quarry	20,000 gal	Fuel	Double Wall Tank
14	Quarry	20,000 gal	Fuel	Double Wall Tank

APPLICATION FOR A MINING PERMIT

D. RECLAMATION PLAN

1. Describe your intended plan for the final reclamation and subsequent use of all affected lands and indicate the sequence and general methods to be used in reclaiming this land. This must include the method of reclamation of settling ponds and/or sediment control basins and the method of restoration or establishment of any permanent drainage channels to a condition minimizing erosion, siltation and other pollution. *This information must be illustrated on a reclamation map and must correspond directly with the information provided on the mine map(s). In addition, design information, including typical cross-sections, of any permanent channels to be constructed as part of the reclamation plan and the location(s) of all permanent channels must be indicated on the reclamation map.*

   All proposed features for the active operation have been designed with final reclamation in mind and will be constructed as described in the attached plan sheets. Reclamation will be conducted as needed throughout the life of the mine and immediately upon completion of each mine segment of the operation.

   Upon the conclusion of mining activities, the open pit excavations will be allowed to fill with water and will be barricaded via a perimeter fence along the pit perimeter road. In addition, the haul road access point/ramp into each of the proposed open pit mines will be provided with berms and barricaded.

   All onsite structures, equipment, stockpiles, and refuse will be removed from the site and properly disposed of according to the materials' applicable standards at the time of removal. All proposed sediment and erosion control basins will be backfilled, stabilized and seeded, with the exception of the pit dewatering pond which will remain. All process water settling ponds will be backfilled, stabilized and seeded. All remaining uncompleted ultimate slopes within the designed overburden and fines disposal areas will be graded to a minimum of 2-feet horizontal, 1-foot vertical slope or flatter and provided with a permanent groundcover.

2. Is an excavated or impounded body of water to be left as a part of the reclamation? Yes ☒ No ☐. *If yes, illustrate the location of the body(s) of water on the reclamation map and provide a scaled cross-section(s) through the proposed body(s) of water.* The minimum water depth must be at least 4 feet, measured from the normal low water table elevation, unless information is provided to indicate that a more willow water body will be productive and beneficial at this site.

   Will the body(s) of water be stocked with fish? Yes ☒ No ☐.
   If yes, specify species.

Cross-sections and locations have been provided on the attached plan sheets. Fish species will be selected via consultation and recommendations obtained from the North Carolina Wildlife Resource Commission prior to stocking as specific species and recommendations will ultimately change through the course of the mine life.

3. Describe provisions for safety to persons and to adjoining property in all completed excavations in rock including what kind of permanent barricade will be left. Acceptable permanent barricades are appropriate fencing, large boulders placed end-to-end, etc. *Construction details and locations of all permanent barricades must be shown on the reclamation map.*

Upon the conclusion of mining activities, the open pit excavations will be allowed to fill with water and will be barricaded via a fence along the pit perimeter road. In addition, the haul road access point/ramp into each of the proposed open pit mines will be provided with berms and barricaded. These and other safety provisions are provided on the Reclamation Map (Sheet 6) and associated details sheets.

4. Indicate the method(s) of reclamation of overburden, refuse, spoil banks or other such on-site mine waste areas, including specifications for benching and sloping. *Final cross-sections and locations for such areas must be provided on the reclamation map.*

All proposed overburden and fines disposal areas, berms, and cut slopes are designed to a minimum 2-feet horizontal,1-foot vertical slope, and will be permanently stabilized with vegetation, including native grasses and

trees. Cross-sections and locations are provided on the attached plan sheets.

5. a. Describe reclamation of processing facilities, stockpile areas, and on-site roadways.

All processing facilities and stockpiles will be removed from the site in compliance with the mining permit conditions and any applicable local, state and federal requirements. Onsite roadways will be regraded to non-erosive conditions and/or conditioned for re-purposing the property for future residential, commercial and/or industrial uses.

b. Will any on-site roadways be left as part of the reclamation? Yes ☒ No ☐.
If yes, identify such roadways on the reclamation map and provide details on permanent road and ditch line stabilization.

Both gated entrance roadways along with the pit perimeter access roadways will remain in place in stabilized condition in order to provide access for monitoring and maintenance activities until future conveyance of the property.

6. Describe the method of control of contaminants and disposal of scrap metal, junk machinery, cables, or other such waste products of mining. (Note definition of refuse in The Mining Act of 1971.)

No off-site generated waste will be disposed of on the mine site without prior written approval from the NC Department of Environmental Quality, Division of Energy, Mineral, and Land Resources and either the Division of Waste Management (DWM) or local governing body. If a disposal permit has been issued by DWM for the site, a copy of said permit must be attached to this application. *All temporary and permanent refuse disposal areas must be clearly delineated on the mine map(s) and reclamation map, along with a list of items to be disposed in said areas.*

All refuse associated with the proposed activities will be removed from site and properly disposed of offsite according to the governing applicable regulations at the time of removal.

7. Describe your plan for revegetation or other surface treatment of the affected areas. This plan must include recommendations for year-round seeding, including the time of seeding and the amount and type of seed, fertilizer, lime and mulch per acre. The recommendations must include general seeding instructions for both permanent and temporary revegetation. Revegetation utilizing only tree plantings is not acceptable. Recommendations can be sought from:

a. Authorized representatives of the local Soil and Water Conservation District;
b. Authorized representatives of the NC Forest Service, Department of Agriculture and Consumer Services;
c. Authorized county representatives of the North Carolina Cooperative Extension Service, specialists and research faculty with the Colleges of Agriculture and Life Sciences and Forest Resources at North Carolina State University;
d. North Carolina licensed landscape architects;
e. Private consulting foresters referred by the NC Forest Service, Department of Agriculture and Consumer Services;
f. N.C. Erosion and Sedimentation Control Planning and Design Manual;
g. N.C. Surface Mining Manual: A Guide for Permitting, Operation and Reclamation;
h. Others as may be approved by the Department.

LIME - RATE OF APPLICATION (tons/acre):

Ground Agricultural Lime	4,000 lbs./ac

FERTILIZER - ANALYSIS AND RATE OF APPLICATION (pounds/acre):

10-10-10	1,000 lbs./ac

SEED - TYPE(S) AND RATE(S) OF APPLICATION INCLUDING **YEAR-ROUND** SEEDING SCHEDULE (pounds/acre): [NOTE: Include Legumes]

Seed Types: **Seeding Dates:** **Seeding Rates:**

Date	Type	February-April
Aug 12 – Nov 1	Talll Fescue	300 lbs./ac
Nov 1 – Mar 1	Tall Fescue & Abruzzi Rye	300 lbs./ac 25 lbs./ac
Mar 1 – Apr 15	Tall Fescue	300 lbs./ac
Apr 15 – Jun 30	Hulled Common Bermuda grass	25 lbs./ac
Jul 1 – Aug 15	Tall Fescue & Browntop Millet or Sorghum – Sudan Hybrids	120 lbs./ac 35 lbs./ac 30 lbs./ac
Slopes (3:1 to 2:1)		
Mar 1 – Jun 1	Sericea Lespedeza	50 lbs./ac
Mar 1 – Apr 15	Add Tall Fescue	120 lbs./ac
Mar 1 – Jun 30	Or Add Weeping Love grass	10 lbs./ac
Mar 1 – Jun 30	Or Add Hulled Common Bermuda grass	25 lbs./ac
June 1 – Sep 1	Tall Fescue and Browntop Millet or Sorghum – Sudan Hybrids	120 lbs./ac 35 lbs./ac 30 lbs./ac
Sep 1 – Mar 1	Sericea Lespedeza and Tall Fescue	70 lbs./ac 120 lbss./ac
Nov 1 – Mar 1	Add Abruzzi Rye	25 lbs./ac

MULCH - TYPE AND RATE OF APPLICATION (pounds/acre) AND METHOD OF ANCHORING:

Mulch – 2 tons/ac – small grain straw with asphalt emulsion @ 300 gals/ac

OTHER VEGETATIVE COVERS – TYPE (S) AND RATE (S) OF APPLICATION INCLUDING SEEDING SCHEDULE (pounds/acre, trees/acre, spacing of trees/shrubs, etc.):

Fall	(September-October)
Loblolly Pine	3,633/ac
Shortleaf Pine	3,633/ac
Maple	1,555/ac

Revegetation and/or reforestation plan approved by:

Signature _____ Date_____

Print Name _____

Title _____

Agency _____

APPLICATION FOR A MINING PERMIT

E. DETERMINATION OF AFFECTED ACREAGE AND BOND

The following bond calculation worksheet is to be used to establish an appropriate bond (based upon a range of $500 to $5,000 per affected acre) for each permitted mine site based upon the acreage approved by the Department to be affected during the life of the mining permit. Please insert the approximate acreage, for each aspect of the mining operation, that you intend to affect during the life of this mining permit (in addition, please insert the appropriate reclamation cost/acre for each category from the Schedule of Reclamation Costs provided with this application form) OR you can defer to the Department to calculate your bond for you based upon your maps and standard reclamation costs:

CATEGORY	AFFECTED ACREAGE		RECLAMATION COST/ACRE*		RECLAMATION COST
Tailings/Sediment Ponds:	10 Ac.	X	$ 1,500 /Ac.	=	$15,000
Stockpiles:	30 Ac.	X	$ 2,000/Ac.	=	$60,000
Wastepiles:	82 Ac.	X	$ 2,000/Ac.	=	$164,000
Processing Area/Haul Roads:	59 Ac.	X	$ 2.000/Ac.	=	$118,000
Mine Excavation:	199 Ac.	X	$ 500/Ac.	=	$99,500
Other:	_____ Ac.	X	$_____ /Ac.	=	$_____
TOTAL AFFECTED AC.:	380 Ac.				
(TOTAL PERMITTED AC.:	630 Ac.)				

Temporary & Permanent Sedimentation & Erosion Control Measures:
Divide the **TOTAL AFFECTED AC.** above into the following two categories: a) affected acres that drain into proposed/existing excavation and/or b) affected acres that will be graded for positive drainage where measures will be needed to prevent offsite sedimentation and sedimentation to onsite watercourses and wetlands.

a) Internal Drainage 307 Ac.

b) Positive Drainage 80 Ac. X $1,500.00 = $ 120,000

SUBTOTAL COST: $576,500

Inflation Factor:

0.02 X SUBTOTAL COST: $11,530 X Permit Life Provided by Applicant (Life of the Mining Operation or Life of Lease from Public Entity (in Years)): 50 years

INFLATION COST: $1,153,000

Total Reclamation Bond Cost: $1,000,000.00
(round down to the nearest $100.00)
(NOTE: The reclamation bond cannot exceed $1 million per GS 74-54)

F. NOTIFICATION OF ADJOINING LANDOWNERS

The "Notice" form, or a facsimile thereof, attached to this application must be sent certified or registered mail, return receipt requested, to:

(1) **the chief administrative officer of each county and municipality in which any part of the permitted area is located as indicated on the mine map(s);**

(2) **all owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary; if an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, all owners of record of tracts adjoining these tracts must be notified (that are within 1,000 feet of the mining permit boundary) as indicated on the mine map(s); and**

(3) **all owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary which lie directly across and are contiguous to any highway, creek, stream, river, or other watercourse, railroad track, or utility or other public right-of-way. If an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, all owners of record of tracts adjoining these tracts must be notified (that are within 1,000 feet of the mining permit boundary) as indicated on the mine map(s). "Highway" means a road that has four lanes of travel or less and is not designated as an Interstate Highway.**

The only exception to the above method of giving notice is if another means of notice is approved in advance by the Director, Division of Energy, Mineral, and Land Resources.

A copy of a tax map (or other alternative acceptable to the Department) must be mailed with the completed "Notice" form **(the proposed overall permit boundaries and the names and locations of all owners of record of lands adjoining said boundaries must be clearly denoted on the tax map).**

The "Affidavit of Notification" attached to this application must be completed, notarized and submitted to the Department, with the remainder of the completed application form, before the application will be considered complete.

NOTES:

THIS SECTION MUST BE COMPLETED FOR ALL APPLICATIONS FOR NEW MINING PERMITS AND ALL MODIFICATIONS OF A MINING PERMIT TO ADD LAND TO THE PERMITTED AREA, AS REQUIRED BY NCGS 74-50(b1).

SEE THE NEXT TWO PAGES FOR THE "NOTICE" FORM AND THE "AFFIDAVIT OF NOTIFICATION"

NOTICE

Pursuant to provisions G.S. 74-50(b1) of The Mining Act of 1971, Notice is hereby given that

_____ has applied on _____
(Applicant Name) (Date)

to the Division of Energy, Mineral, and Land Resources, North Carolina Department of Environmental Quality, 1612 Mail Service Center, Raleigh, North Carolina 27699-1612, for (check one):

- ☐ a new surface mining permit,
- ☐ a modification of an existing surface mining permit to add land to the permitted area; or
- ☐ a modification of an existing surface mining permit to add land to the permitted area with no disturbance in the area proposed. **Please note that future modification(s) may be submitted by the applicant to allow disturbance within this area without re-notification of adjoining landowners.**

The applicant proposes to mine _____ on _____ acres located _____
(Mineral, Ore) (Number) (Miles)

_____ of _____ off/near road _____
(Direction) (Nearest Town) (Number/Name)

in _____ County.

SEE ATTACHED MAP FOR PROPOSED PERMIT BOUNDARIES AND CORRESPONDING ADJOINING LANDOWNER NAMES AND LOCATIONS

In accordance with G.S. 74-50(b1), the mine operator is required to make a reasonable effort, satisfactory to the Department, to notify all owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary; if an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, all owners of record of tracts adjoining these tracts must be notified (that are within 1,000 feet of the mining permit boundary). In addition, the mine operator must also notify the chief administrative officer of the county or municipality in which any part of the permitted area is located. Any person may file written comment(s) to the Department at the above address within thirty (30) days of the issuance of this Notice or the filing of the application for a permit, whichever is later. Should the Department determine that a significant public interest exists relative to G.S. 74-51, a public hearing will be held within 60 days of the end of the 30-day comment period specified above.

A copy of the permit application materials is on file and available for public review during normal business hours at the above listed address as well as at the appropriate regional office. **For information regarding the specifics of the proposed mining activity, please contact the applicant at the following telephone number: (919) 747-6336**. For information on the mining permit application review process, please contact the Mining Program staff at (919) 707-9220. Please note that the Department will consider any relevant written comments/documentation within the provisions of the Mining Act of 1971 throughout the application review process until a final decision is made on the application.

_____ _____
(Addressee/Owner of Record's Name and Address) (Name of Applicant: Include Contact Person & Company Name, if Applicable)

_____ _____
(Date of Issuance of this Notice/ Mailed to Addressee/Owner of Record) (Address of Applicant)

APPLICATION FOR A MINING PERMIT

AFFIDAVIT OF NOTIFICATION

I, Scott Martino, an applicant, or an agent, or employee of an applicant, for a new Mining Permit, or a modification of an existing Mining Permit to add land to the permitted area, from the N.C. Department of Environmental Quality, being first duly sworn, do hereby attest that the following are all known owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary (including, where an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, all owners of record of tracts adjoining these tracts, that are within 1,000 feet of the mining permit boundary) and that notice of the pending application has been caused to be mailed, by certified or registered mail, return receipt requested, to said owners of record at their addresses shown below, such notice being given on a form provided by the Department:

(Adjoining Landowner Name) (Address)

See Attached Appendix C for Provided map and table displaying all notified surrounding parcel owners within 1,00 feet of any proposed mining permit boundary

I do also attest that the following individual is the chief administrative officer of the county or municipality in which any part of the permitted area is located and that notice of the pending application has been caused to be mailed, by certified or registered mail, return receipt requested, to said office at the following address:

(Chief Administrative Officer Name) (Address)
[i.e.: City Manager, County Manager, Mayor, etc.]

Mr. Bryan Miller (Caswell County Manager) 144 Court Square Yanceyville NC 27379

The above attestation was made by me while under oath to provide proof satisfactory to the Department that a reasonable effort has been made to notify all known owners of record, both public and private, of all tracts of land that are adjoining the mining permit boundary (including, where an adjoining tract is owned or leased by the applicant or is owned by the lessor of the mine tract, all owners of record of tracts adjoining these tracts, that are within 1,000 feet of the mining permit boundary) and the chief administrative officer of the county or municipality in which any part of the permitted area is located in compliance with N.C.G.S. 74-50(b1) and 15A NCAC 5B .0004(d). I understand that it is the responsibility of the applicant to retain the receipts of mailing showing that the above notices were caused to be mailed and to provide them to the Department upon request.

Signature of Applicant or ~~Agent~~ 8-27-2019 Date

If person executing Affidavit is an agent or employee of an applicant, provide the following information:
Name of applicant: Scott Martino
Title of person executing Affidavit Environmental Compliance Manager

I, Heather M. Yeomans a Notary Public of the County of Wake,

State of North Carolina, do hereby certify that Scott Martino appeared before me this day and under oath acknowledged that the above Affidavit was made by (him)/~~her.~~

Witness my hand and notarial seal, this 27th day of August 2019.
Notary: _____ my Commission expires: 04/15/2023

HEATHER M. YEOMANS
Notary Public, North Carolina
Wake County
My Commission Expires
04/15/2023

APPLICATION FOR A MINING PERMIT

G. LAND ENTRY AGREEMENT

We hereby grant to the Department or its appointed representatives the right of entry and travel upon our lands or operation during regular business hours for the purpose of making necessary field inspections or investigations as may be reasonably required in the administration of the Mining Act of 1971 pursuant to G.S. 74-56.

We further grant to the Department or its appointed representatives the right to make whatever entries on the land as may be reasonably necessary and to take whatever actions as may be reasonably necessary in order to carry out reclamation which the operator has failed to complete in the event a bond forfeiture is ordered pursuant to G.S. 74-59.

LANDOWNER:

Signature: _____

Print Name: Ernie Koury
(Title, if applicable)

Company ETree LLC
(If applicable)

Address: P.O. 850

Burlington NC 2216

Telephone: (336) 260 7124

Date Signed: 8/28/19

APPLICANT:

Signature:* _____

Print Name: Gregg Bowler

Title: Chief Operating Officer and Chief Financial Officer

Company: Carolina Sunrock LLC

Mine Name: Prospect Hill Quarry and Distribution Center

Telephone: (919) 747-6400

Date Signed: 8/27/19

*Signature must be the same as the individual who signed Page 1 of this application.

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LANDOWNER:

Signature: _____

Print Name: _____
(Title, if applicable)

Company _____
(If applicable)

Address: _____

_____

Telephone: ( )_____

Date Signed: _____

APPLICANT:

Signature:* 

Print Name: Gregg Bowler

Title: Chief Operating Officer and Chief Financial Officer

Company: Carolina Sunrock LLC

Mine Name: Prospect Hill Quarry and Distribution Center

Telephone: (919) 747-6400

Date Signed: 8/27/19

*Signature must be the same as the individual who signed Page 1 of this application.

APPLICATION FOR A MINING PERMIT

One original and five (5) copies of the completed application, six (6) copies of all location maps, mine maps and reclamation maps, and the appropriate processing fee (see next page for fee schedule) in the form a check or money order payable to the North Carolina Department of Environmental Quality must be sent to the Raleigh Central Office at the address listed on the front cover of this application form.

Inquiries regarding the status of the review of this application should be directed to the Mining Program staff at (919) 707-9220.

MINING FEE SCHEDULE

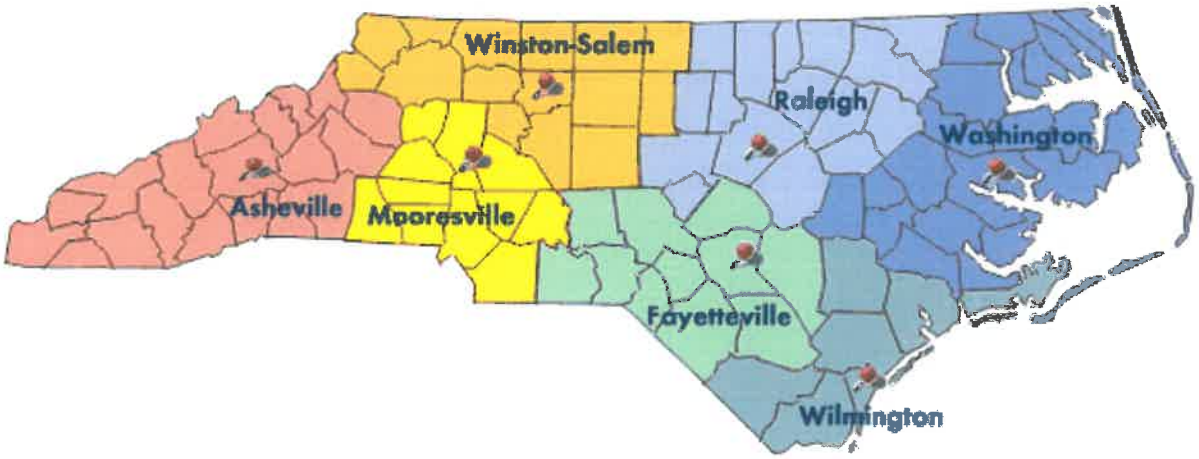
A nonrefundable permit application processing fee when filing for a new mining permit, permit modification or transferred permit is required as follows:

	0-25 acres	26+acres
New Permit Applications	$3,750.00	$5,000.00
Permit Modifications	$750.00	$1,000.00
Permit Transfers	$100.00	$100.00
Annual Operating Fee	$400.00	$400.00

Acres for new permits means the total acreage at the site. Acres for modification of permits means that area of land affected by the modification within the permitted mine area, or any additional land that is to be disturbed and added to an existing permitted area, or both.

APPLICATION FOR A MINING PERMIT

There are seven Division of Energy, Mineral, and Land Resources (DEMLR) Regional Offices. Use the map below to locate the Regional Office serving your county.



Asheville Regional Office

- Counties: Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania, Yancey
- Address: 2090 U.S. Highway 70, Swannanoa, NC 28778
- Voice: 828.296.4500
- FAX: 828.299.7043

Fayetteville Regional Office

- Counties: Anson, Bladen, Cumberland, Harnett, Hoke, Montgomery, Moore, Richmond, Robeson, Sampson, Scotland
- Address: 225 Green Street, (Systel Building), Suite 714, Fayetteville, NC 28301-5094
- Voice: 910.433.3300
- FAX: 910.486.0707

Mooresville Regional Office

- Counties: Alexander, Cabarrus, Catawba, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, Union
- Address: 610 East Center Ave., Suite 301, Mooresville, NC 28115
- Voice: 704.663.1699
- FAX: 704.663.6040

Raleigh Regional Office

- Counties: Chatham, Durham, Edgecombe, Franklin, Granville, Halifax, Johnston, Lee, Nash, Northampton, Orange, Person, Vance, Wake, Warren, Wilson
- Address: 1628 Mail Service Center, Raleigh, NC 27699-1628 or 3800 Barrett Drive, Raleigh, NC 27609
- Voice: 919.791.4200
- FAX: 919.571.4718

Washington Regional Office

- Counties: Beaufort, Bertie, Camden, Chowan, Craven, Currituck, Dare, Gates, Greene, Hertford, Hyde, Jones, Lenoir, Martin, Pamlico, Pasquotank, Perquimans, Pitt, Tyrrell, Washington, Wayne
- Address: 943 Washington Square Mall, Washington, NC 27889
- Voice: 252.946.6481
- FAX: 252.975.3716

LAND QUALITY REGIONAL OFFICES (continued)

Wilmington Regional Office

- Counties: Brunswick, Carteret, Columbus, Duplin, New Hanover, Onslow, Pender
- Address: 127 Cardinal Drive Extension, Wilmington, NC 28405
- Voice: 910.796.7215
- FAX: 910.350.2004

Winston-Salem Regional Office

- Counties: Alamance, Alleghany, Ashe, Caswell, Davidson, Davie, Forsyth, Guilford, Rockingham, Randolph, Stokes, Surry, Watauga, Wilkes, Yadkin
- Address: 1450 Hanes Mill Road, Suite 300, Winston-Salem, NC 27103
- Voice: 336.776.9800
- FAX: 336.771.4631

SCHEDULE OF RECLAMATION COSTS
(Based upon range of $500 - $5,000 per affected acre)

COMMODITY CODES: **SG** = Sand and/or Gravel, **GS** = Gemstone, **Borrow** = Borrow/fill dirt, **CS** = Crushed Stone, **DS** = Dimension Stone, **FS** = Feldspar, **MI** = Mica, **LI** = Lithium, **PF** = Pyrophyllite, **OL** = Olivine, **KY** = Kyanite/Sillimanite/Andalusite, **PH** = Phosphate, **CL** = Clay/Shale, **PE** = Peat, **AU** = Gold, **TI** = Titanium, and **OT** = Other

Type	T/S Ponds	S.piles	W.piles	P.area/H.R.	Mine Excav.
SG, GS, Borrow	$500/ac.(L) 1500(FI)	$1800/ac.	$2000/ac.	$1800/ac.	$500/ac.(L) $2000(PD)
CS, DS, FS, MI, LI, PF, OL, KY	500(L) 1500(FI)	1800	2000	2000	500(L) 2500(PD)
PH	1000(L) 2500(FI)	2500	5000	5000	2000(L) 5000(PD)
CL	1000(L) 2500(FI)	2500	5000	5000	2000(L) 3700(PD)
PE, AU, TI, OT	1000(L) 2500(FI)	2500	3000	3500	2000(L) 5000(PD)

(L) = reclamation to a lake and revegetating sideslopes
(FI) = reclamation by filling in and revegetating
(PD) = reclamation by grading for positive drainage & revegetating

AS PER NCAC 15A 5B.0003, IF YOU DISAGREE WITH THE BOND AMOUNT DETERMINED BY THE BOND CALCULATION WORKSHEET, YOU MAY SUBMIT AN ESTIMATE OF RECLAMATION COSTS FROM A THIRD PARTY CONTRACTOR. SAID ESTIMATE MUST BE PROVIDED WITHIN 30 DAYS TO THE FOLLOWING ADDRESS: Mining Program, 1612 Mail Service Center, Raleigh, North Carolina 27699-1612

ALL ESTIMATES MUST INCLUDE THE FOLLOWING, AS A MINIMUM:

- **FINAL GRADING COSTS PER ACRE**
- **LIME AND FERTILIZER COSTS PER ACRE**
- **YEAR-ROUND SEEDING MIXTURE COSTS PER ACRE (FROM APPROVED REVEGETATION PLAN IN APPLICATION/PERMIT DOCUMENT)**
- **MULCH AND ANCHORING COSTS PER ACRE**
- **ANY OTHER RECLAMATION COSTS NECESSARY TO COMPLY WITH THE APPROVED RECLAMATION PLAN FOR THE SITE IN QUESTION**

YOU WILL BE NOTIFIED AS SOON AS POSSIBLE OF THE DIRECTOR'S FINAL BOND DETERMINATION.